

5 Applicant: Edward T. Bullister
For: Improved Mouse and Trackball
 with Optimal Measurement Optics.

Abstract of Invention

10 A cursor control device for computers includes a ball whose
 surface is marked with a regular pattern based on the Platonic
 solids. The ball surface is illuminated and the rotations are
 measured precisely from the observed motions of the Platonic
 solids. The precision of measurement enables the rotation to be
15 measured about other axes and transformed to the desired
 coordinates without undue deterioration of accuracy.

20 In one embodiment, a nonplanar retainer exposes adjacent
 faces of a trackball for three components of rotation. In
 another embodiment, the ball rotation is measured inside a mouse,
 and the high accuracy of detection of rotation enables collection
 of transformed rotations from a sensor mounted to the side for a
 more compact design.